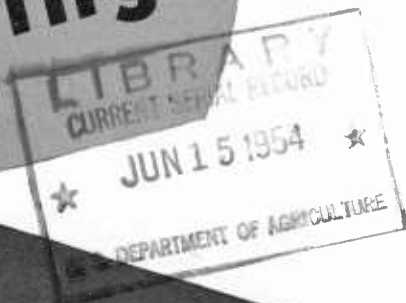


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# Capons and Caponizing



Farmers' Bulletin No. 849

U. S. DEPARTMENT OF AGRICULTURE

CAPONS make choice poultry meat. A capon brings a better price per pound than a cockerel. Its more contented disposition and its physiological condition permit it to make somewhat better growth.

“Hormonized” chickens or “caponettes” are birds of either sex that have been treated with diethylstilbestrol. They sell at a slightly higher price per pound than cockerels and are usually marketed at a slightly heavier weight. The Plymouth Rock, New Hampshire, Jersey Giant, Rhode Island Red, Wyandotte, and various crosses of these breeds make desirable capons and caponettes.

Cockerels are caponized when they are from 10 days to 3 months old. Birds are chemically treated at 6 to 8 weeks of age. Some practice is required to become skillful at caponizing.

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# CAPONS AND CAPONIZING

By poultry specialists of the Animal and Poultry Husbandry Research Branch, Agricultural Research Service <sup>1</sup>

**C**APONIZING and capon raising are carried on to a limited extent in many sections of this country. There are no concentrated areas or large capon farms such as we have in broiler and turkey production.

Most of the capons are produced on general farms in the Central and North Central States. Capons are raised for local markets or for nearby city markets, especially in the North Atlantic States.

## CHARACTERISTICS OF THE CAPON

A capon is a castrated male chicken. As with other male animals so altered, the disposition of the capon is affected. It differs materially from that of the cockerel. The capon no longer shows any disposition to fight, is much more quiet and sluggish, and is more docile and easy to keep within bounds. The true capon seldom crows. Along with this change in disposition there is a change in appearance. The comb and wattles cease growing, causing the head to appear abnormally small. The hackle, tail, and saddle feathers grow long, making the bird appear profusely feathered.

As a result of the operation the capon develops more uniformly than the cockerel and grows to a slightly greater size. The common idea that capons grow either much more rapidly or very much larger than cockerels is erroneous so far as their early development is concerned. There is little difference in their relative size up to 5 or 6 months of age, but after that time the capons gradually outgrow the cockerels and fatten more readily. Since capons are very peaceable, they may be kept in fairly large flocks without fighting as cockerels do. Capons grow heavier than cockerels and bring a better price per pound.

The flesh of cockerels begins to get hard when the birds are large enough to show pronounced spur and comb development. They are then called stags. After cockerels are a year old they are classed as old cocks and bring comparatively low prices.

Before attempting to caponize cockerels which are to be raised and fattened for sale, the beginner should make a careful study of local demands and also consider the advisability of shipping to markets where capons bring the best prices. The demand for broilers in early spring should also be considered. In many cases it may be advisable to caponize only the late-hatched cockerels and fatten them for the late-winter markets.

## SELECTION OF BREEDS

Good size and fairly rapid growth are the characteristics most sought in determining the best breed for caponizing. Large capons bring the best prices. Breeds with yellow legs and skin are preferred as in other classes of market poultry but it does not pay to caponize small fowls such as Leghorns. The Plymouth Rock, especially the White, the New Hampshire, Jersey Giant, Rhode Island Red, Wyandotte, and various crosses of these breeds are

<sup>1</sup> Rob R. Sloeum and A. R. Lee prepared previous editions of this bulletin.

generally used and make good capons. The Orpingtons also make good capons but their white legs and skin make them less desirable for markets in this country. The Jersey Giants and the Langshans make the largest capons but take longer to develop than Plymouth Rocks, New Hampshires, and Rhode Island Reds which, though smaller, are the breeds most used as capons.

### WHEN TO CAPONIZE

The best time to caponize chickens is late in the spring or early in the summer. Cockerels are caponized when they are from 10 days to 3 months old, most caponizing being performed when the cockerels are from 6 to 8 weeks of age. A few farms make a specialty of starting capons which are caponized at 10 days of age and sold at 4 to 6 weeks of age. Although cockerels over 3 months old may be caponized, the operation on them is much more difficult and the beneficial effects on growth and quality of flesh are much less. Capons are in greatest demand from Thanksgiving to March, and take from 7 to 9 months to grow and finish properly. The chicks should be hatched in the spring so that they can mature during the period of greatest demand. Many capons are held in cold storage for sale when the demand is greatest.

### CAPONIZING INSTRUMENTS

Various kinds of caponizing instrument sets are manufactured, the important difference between them being in the forceps used in removing testicles. Types of caponizing instruments most generally used are shown in figure 1. With good forceps it should be fairly easy to get hold of the whole testicle so that this organ may be readily torn or twisted from the attached membrane without breaking any part of the testicle, or

rupturing any of the large blood vessels in this area.

Figure 1, A shows a type of forceps with curved handles which allow good visibility into the body cavity when removing the testicle. Both types A and B consist of two hinged arms which have differently shaped ends for grasping the testicle. In use, the forceps are opened and the ends closed over the testicle, the handles then being either locked or held in place by a rubber band. The type shown at C is also used to grasp the testicle in a somewhat similar manner but does not have a lock on the handle. Another type of instrument (D) has two scoop-shaped jaws regulated by a slide. The testicle is caught in the scoop so that the spermatic cord which holds the testicle is between these jaws. After the testicle is grasped in this manner the jaws of the forceps are tightened and the forceps withdrawn carefully until this cord is severed, thus removing the testicle.

A sharp-pointed, thin-bladed knife (E) is used for making the incision. Two types of spreaders used to spring the ribs apart are shown (F) and (G). A sharp-pointed hook (H) is used to tear away the thin membranes and its blunt end is used as a probe for pushing aside the intestines. Tweezers (I) are used to pick out foreign material that may fall into the body cavity. This is all the equipment needed for the operation.

### THE OPERATION OF CAPONIZING

Before the operation the cockerels should be kept without feed and water for 12 to 24 hours so that the intestines will be almost empty, and not be in the way during the operation. Very good light is necessary when operating in order that the organs of the bird may easily be distinguished. Direct sunlight is best although a strong electric light, with a reflector, may be used if the work is done indoors.

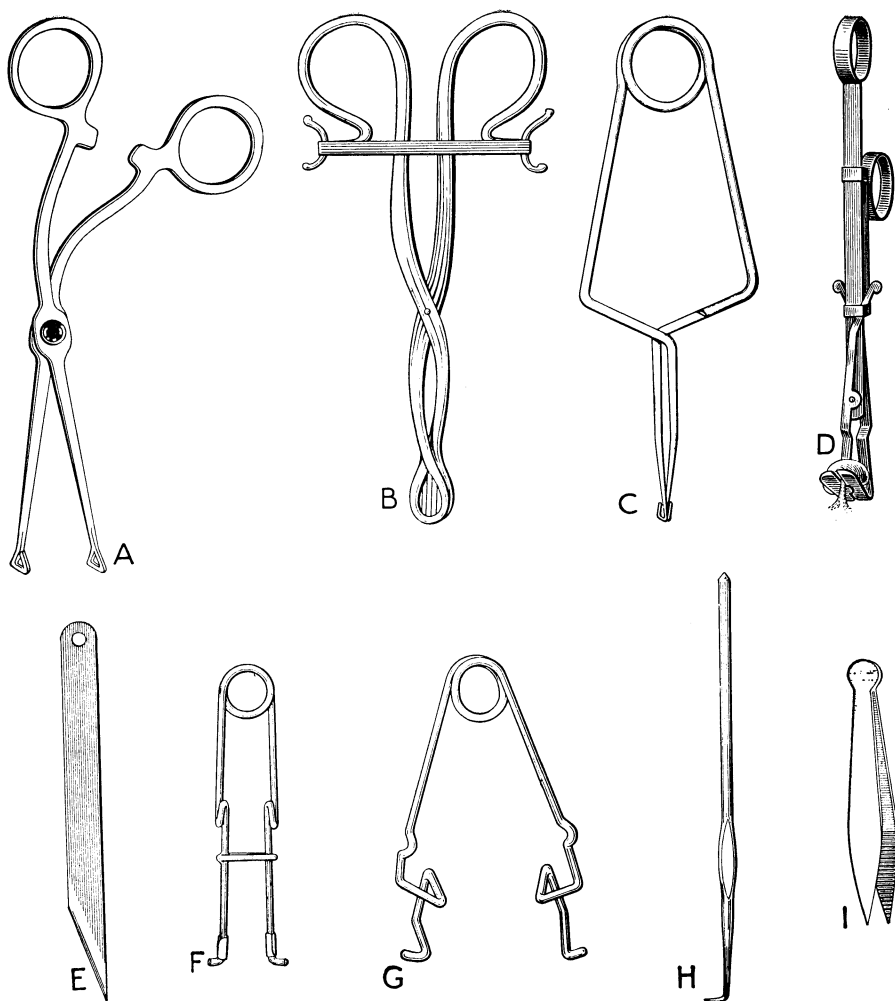


FIGURE 1.—Instruments used in caponizing: A, B, and C, forceps used in removing testicles; D, another type of forceps which is regulated by a slide; E, knife used for making the incision; F and G, spreaders for holding the ribs apart; H, sharp-pointed hook for tearing away the thin membranes; I, tweezers for use in removing foreign matter.

### Holding the Chicken

A barrel or box may be used as an operating table (fig. 2). However, if a large number of birds are to be caponized, a table adjusted to the proper height will do much toward increasing efficiency. The cockerel is securely fastened in the half-hitch of a cord around the legs and in another over the wings near the shoulder joints. Weights heavy enough to hold the bird are attached

to these cords. The weights should weigh about 1 pound each and are so placed that they keep the bird well stretched out (fig. 3). The weights may be hung over the edge of the barrel or box, or suspended beneath the table in which holes have been bored at suitable places for the cords. These cords should be easy to adjust, and should be so arranged that the bird can easily be turned over without removing the weights.



FIGURE 2.—Barred Plymouth Rock cockerel of size suitable for caponizing.



FIGURE 3.—Method of securing cockerel in position for the operation.

### Details of the Operation

Have all equipment in readiness because after the operation is begun the work should be completed as quickly as possible. Moisten and remove the feathers from a small area over the last two ribs just in front of the thigh (fig. 4). With the left hand slide the skin and flesh down toward the thigh. Holding it thus, make the incision between the last two ribs (fig. 5), with the edge of the knife (fig. 1, E) away from you as you stand back of the fowl. Lengthen the incision in each direction until it is from 1 inch to 1½ inches long.

Now insert the spreader (fig. 1, F or G) into the incision, thus springing the ribs apart, as shown in figures 6 and 7. The intestines will now be visible, covered by a thin membrane called the omentum. Tear open this membrane with the hook, and the upper testicle, yellow or sometimes rather dark colored, and about the size and shape of a navy bean, should be visible close up against the backbone. By pushing the intestines aside both testicles can easily be seen, the lower in a position similar to that occupied by the upper, but on the other side of

the backbone. Expert operators sometimes remove both testicles through one incision. If both testicles are to be removed through the same incision, remove the lower one first, as the bleeding from the upper may obscure the lower. Most operators find it easier to remove the upper or nearer testicle, then make a second incision on the opposite side of the body for removing the other testicle.

The delicate part of the operation is now at hand. The spermatic artery is located just behind and is attached to the testicles. If this artery is ruptured the chicken will bleed to death in a very short time. With the forceps, grasp the testicle but not this artery. Be careful to grasp the entire testicle, and gradually twist and tear it away from the spermatic cord, as shown in figure 8. If only the upper testicle is removed, turn the bird over and perform a similar operation on the other side.

### LOSSES DUE TO CAPONIZING

Even experts kill some birds in caponizing but the loss is small, seldom exceeding 5 percent where any considerable number are caponized, and usually not more than 2



FIGURE 4.—Feathers plucked away to make ready for incision. Before making the cut the skin over the last two ribs is pulled down toward the thigh and held there while the incision is made. The cut in the skin is then not directly over the incision in the body.





FIGURE 5.—The incision made. The skin must be held firmly with the left hand until the spreader is inserted.

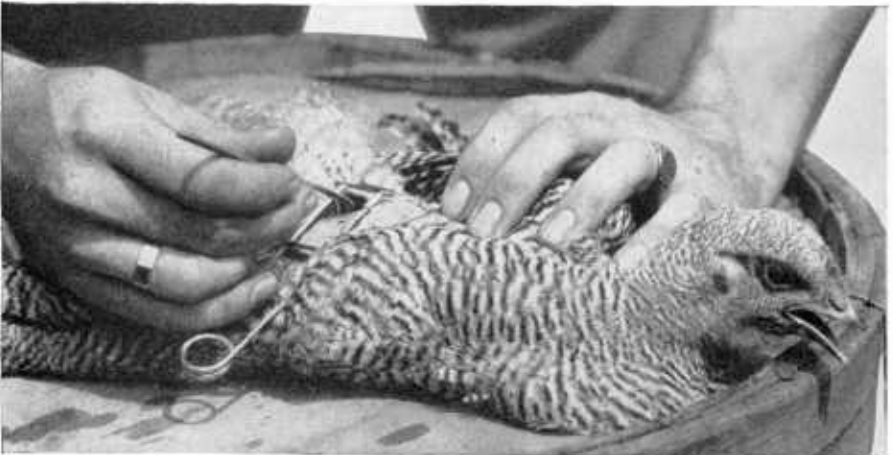


FIGURE 6.—Spreader in place. The next step is to tear open the membrane that covers the intestines.



FIGURE 7.—The membrane removed, exposing the upper testicle to view. It lies close against the backbone and is about the size of a navy bean.

or 3 percent. With beginners, of course, the percentage of birds killed is much larger. However, with a little practice and care, the loss is soon reduced. Any fowls which may be killed in this way are perfectly good to eat.

A great deal of practice is required to become expert enough to operate rapidly. Consequently, it is customary in localities where many capons are grown to hire experts to do the work. These men are able to caponize a fowl in 1 to 4 minutes, and they may charge 8 to 12 cents a bird. The beginner should practice at first on slaughtered fowls in order to acquire skill before attempting to caponize a live bird.

### SLIPS

Many times, particularly when beginners perform it, the operation seems to be entirely satisfactory, but the bird will become what is known as a "slip," neither cockerel nor capon. A "slip" possesses the active disposition and appearance of an ordinary cockerel but is unable to reproduce. This condition results when a small piece of testicle is left in the body. The piece often grows to a considerable size. As the "slips" possess the same restless disposition as cockerels, they grow and fatten little or no better, and bring about the same price. In spite of the greatest care, "slips" are likely to occur, the percentage ranging from 50 percent when the

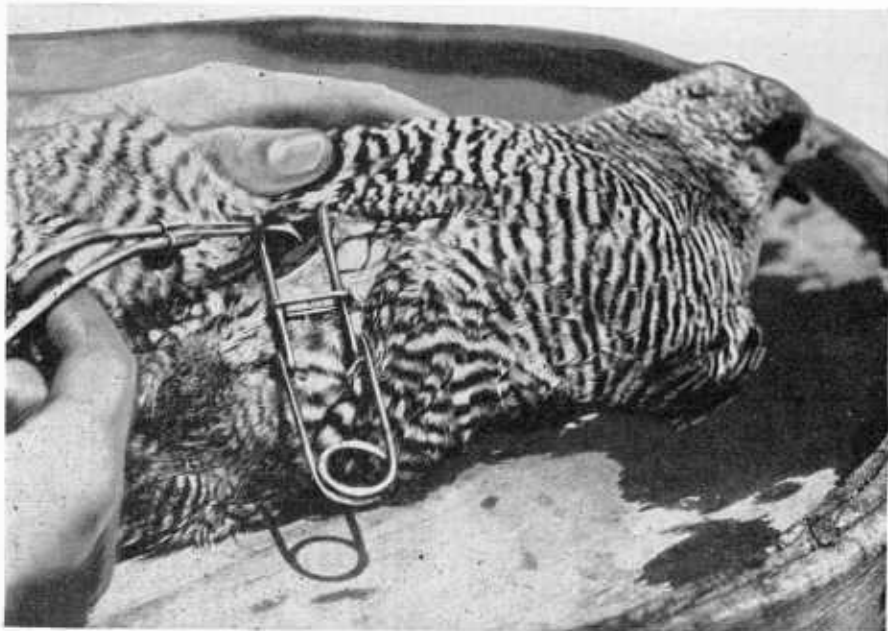


FIGURE 8.—Removing the testicle.

operation is performed by beginners down to 5 percent for experts.

#### CARE OF FOWLS AFTER OPERATION

After the operation the capons may be kept away from the other chickens for 2 or 3 days. As a rule, they show little immediate effect from the operation. Most growers give capons ordinary growing rations and put them on range immediately without any special handling.

Air puffs may develop on some of the capons within a week or 10 days after the operation. Air has gathered under the skin and puffed it out near the wound. The condition can be relieved readily by pricking the skin with a needle or knife and pressing out the air. A short piece of thread drawn through an air puff, with the ends tied together, usually prevents its recurrence. This thread is left in the skin and soon disappears. Within 10 days after the operation the incision usually is completely healed.

Breast blisters often form on the keels of capons. They are likely to start when the birds are about half grown and are at their worst when the capons are about three-fourths grown. After that time the blisters may recede and disappear entirely when the birds are well fleshed and fat.

Birds can develop breast blisters from roosts that are too wide or from sleeping on board, concrete, wire, or uneven floors. Roosts 2 inches wide with rounded edges cause few blisters. Floors should be covered with loose litter if the birds do not roost.

#### FEEDING AND GROWING CAPONS

Capons are fed the usual poultry-growing rations until they are 7 to 9 months old when they are marketed. A good growing mash may be made up as follows:

	<i>Parts, by weight</i>
Ground yellow corn.....	25.0
Ground oats or wheat.....	10.0
Ground corn, wheat, barley, or grain sorghum.....	11.8

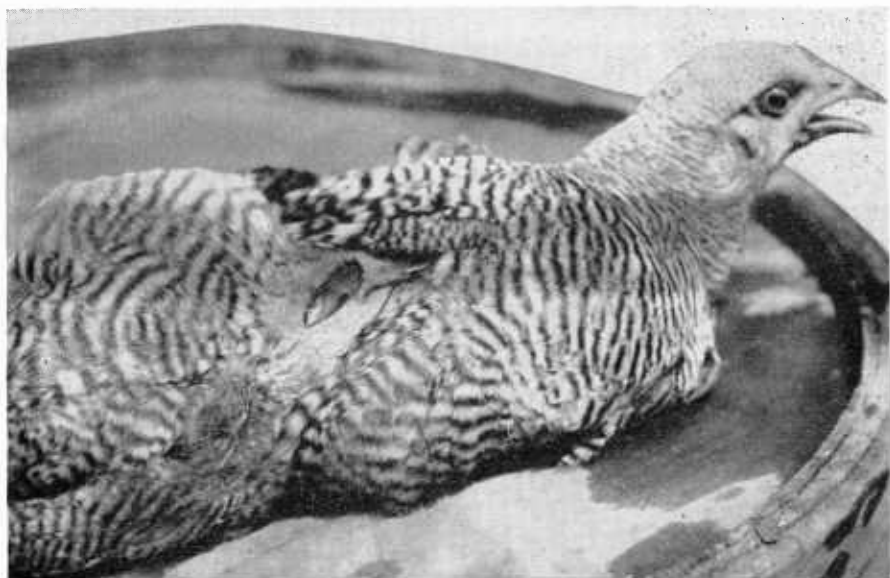


FIGURE 9.—After removing the testicle the spreader is removed and the weights taken off the wings. The skin slips back over the incision, thus closing the opening.

	<i>Parts, by weight</i>
Alfalfa leaf meal.....	5.0
Soybean meal.....	21.0
Cottonseed meal, peanut meal, corn-gluten meal or soybean meal.....	10.0
Meat meal or fish meal.....	5.0
Riboflavin supplement (20 micro- grams of riboflavin per gram) <sup>1</sup> ...	6.0
Steamed bonemeal, defluorinated super-phosphate, or other low- fluorine calcium phosphate.....	3.0
Ground limestone or oystershell...	2.0
Manganized salt.....	1.0
Vitamin A and D feeding oil (300 I. C. U. vitamin D, 1,500 International Units vitamin A per gram) <sup>2</sup> .....	0.2

<sup>1</sup> May be dried whey or fermentation products at appropriate levels.

<sup>2</sup> May be fish-oil vitamin A or provitamin A from vegetable sources.

I. U., International Units. One International Chick Unit (I. C. U.) = 1.33 A. O. A. C. Units (effective Jan. 1951).

A scratch feed of cracked corn and wheat is fed in addition to the mash, the amount being regulated so that about equal parts of mash and of scratch are consumed. Capons need free range on grass or alfalfa to make the most economical gains during their long growing period. Two or three weeks before

they are marketed they may be fattened by increasing the corn and cornmeal in their ration, either while they are on range or in moderately close confinement.

A fattening mash mixed with milk may be used during the last 2 weeks. Milk makes a very desirable addition to the fattening ration. A good fattening ration follows:

	<i>Parts, by weight</i>
Ground corn.....	45.0
Finely ground oats, wheat, or bar- ley.....	34.0
Meat meal.....	3.0
Soybean meal or corn-gluten meal...	10.0
Dried milk byproduct.....	6.0
Ground limestone.....	1.5
Salt.....	.5

Light, portable shelters such as are used for growing pullets make desirable growing quarters for capons until the weather gets cold. Provide warmer houses as soon as the weather gets cold in the fall. As capons are of a quiet disposition they need only 2 or 3 square feet of floor space per fowl even when nearly full grown.

## MARKETING CAPONS

Most capons are marketed alive through poultry dealers who kill and prepare the birds for market. The birds are then frozen and shipped. However, many capons are processed on the farm and marketed locally.

The capons to be killed on farms for local markets should be kept without feed for 12 hours before they are slaughtered, but should be given plenty of water. Capons usually are dry-plucked, or semiscalded. Hang the bird by the feet with a cord or a wire shackle. Grasp the head in the left hand, open the bird's mouth and cut the jugular vein in the throat just below the base of the skull with one slash of a sharp, narrow-bladed knife. Bleeding should be thorough and usually requires from 90 to 180 seconds. As soon as the cut has been made, plunge the

point of the knife through the roof of the mouth into the brain and pluck the capon immediately.

The methods of killing and plucking capons are about the same as those used for other kinds of poultry and are described in detail in *Farmers' Bulletin 2030, Marketing Farm Poultry*.

As capons bring relatively good prices it pays to pick them very carefully, taking care not to tear the skin. If bad tears are made they should be sewed up. Remove all pin feathers and make the capons clean and attractive for market (fig. 10).

After the birds are plucked, cool them promptly in cold water, preferably in ice water. After being thoroughly cooled they are marketed locally or may be packed in barrels or boxes holding a dozen birds, in which they are shipped to market. The plucked capons should

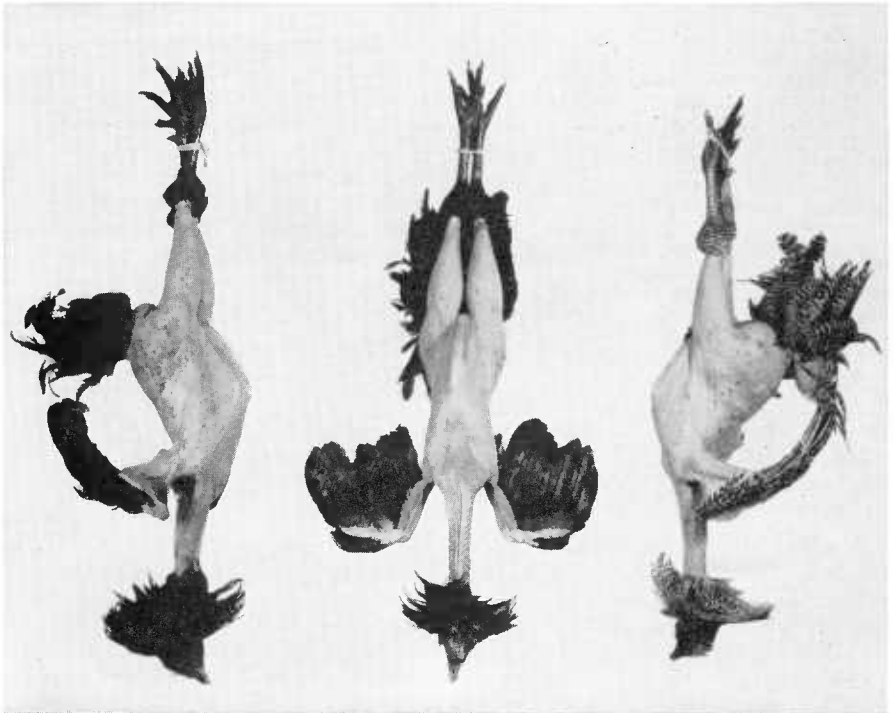


FIGURE 10.—Capon ready for market. Clean-plucking is also practiced to meet the preference of some markets.

be frozen or packed in ice for shipment.

## **COST OF PRODUCTION AND RETURNS**

Because capons are fed for 7 to 9 months before marketing, it is essential, as already mentioned, that they have a good range on which to develop. Such a range usually is available on general farms and if the birds are allowed to roam they will pick up part of their feed. Grains produced on the farm help to keep down the cost. Feed cost is a big factor, because capons require nearly twice the amount of feed per pound up to market age as do broilers.

Since costs of growing and fattening fowls are often estimated on the amount of grain consumed, the following estimates may help to determine the cost of raising capons. At 6 months of age a New Hampshire capon will have consumed about 26 pounds of grain and mash. It takes from 7 to 8 pounds of feed a month to grow such a capon after it is 6 months old, so that at 9 months it will have eaten about 50 pounds of feed. The live weight at that age will be from 8 to 9 pounds. Breeds that grow larger than the New Hampshire will consume more feed. The long growing period necessary for producing capons tends to make both feed and labor important items in the cost of production. The most efficient use of houses and range should also be made. Another cost factor is the distance of farm from market. The best prices for capons are obtained by producers who are near good markets or who can sell directly to consumers. On the whole, the profits probably are greater for producers in the Eastern States than for those in other sections of the United States.

Market prices for capons are not so well stabilized as are those of some other classes of poultry. Large eastern cities, such as Philadelphia, New York, and Boston, are con-

sidered especially good markets for capons during the winter months. During recent years capon prices on the New York market have usually exceeded turkey prices by several cents a pound during the capon season, which commonly extends from November to March. Capon prices are usually considerably higher than the market quotations for chickens, the spread increasing as the capon season advances. Find out what price is being paid for capons in your locality before caponizing a great number of cockerels. It may be advisable to caponize only the late-hatched cockerels because the early-hatched birds usually bring good prices as broilers. In fact most poultrymen prefer to market their cockerels as soon as they can be sold to advantage, in order to give the pullets good growing conditions and also to reduce labor.

The margin of profit is often not great enough to encourage capon production. However, near large cities, a poultryman may be able to develop a special retail market and find it profitable to caponize part of his flock each year.

## **"HORMONIZED" POULTRY**

Young growing chickens of either sex that have been treated with diethylstilbestrol are designated as "Hormonized" and sometimes as "caponettes". Such chickens should not be confused with the true capon. Diethylstilbestrol is a synthetic chemical which induces an effect similar to that of the sex hormone secreted naturally in the ovaries of females. When pullets approach sexual maturity they secrete this female sex hormone in large amounts and put on more flesh, fat, and finish.

When young male chickens are treated with female sex hormones their masculine development is suppressed. They put on more fat and finish, feather faster, stop crowing and fighting, and the combs shrivel.

Effects of the hormones last 6 to 8 weeks. Cockerels are usually treated at 6 to 8 weeks of age and are generally marketed at 12 to 16 weeks of age. Sometimes cockerels start to lose the effects of the hormones before they reach market weight. In this case they may be given a second treatment. If the treated cockerels begin to develop red combs the markets usually do not accept them as caponettes.

Young pullets may also be treated with female sex hormones. They may put on a little more weight, usually feather faster and develop softer flesh and fat. They are treated at the same age as cockerels but are generally marketed somewhat sooner because, if kept much longer, they tend to develop large intestines and oviducts which reduce the dressed weight.

The hormones are prepared com-

mercially in the form of pellets or paste. One pellet or dose containing not more than 15 milligrams of diethylstilbestrol is used for each bird. The preparation is implanted under the skin of the bird's neck just behind the skull with an injector especially designed for the purpose. It is important that the drug be implanted at the base of the skull so that any residue is discarded with the head when the bird is slaughtered. The heads should not be fed to animals to be used for breeding purposes. The meat from properly treated caponettes is considered perfectly safe for human consumption.

Caponettes usually are marketed at lighter weights than true capons and at slightly heavier weights than cockerels. They usually sell for less per pound than true capons and slightly more than cockerels.





# Clean Grain



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## Cleanliness in grain begins on the farm

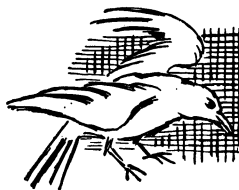
Insects, birds, and rats and other rodents that get into stored grain cause enormous losses. They waste the nation's food and eat away your profits. You can help cut these losses by making sure that all the grain you store and handle is clean.



**Keep rats and mice out** with better storage construction. Poison and trap rodents and clean up places where they may hide and live.



**Keep insects out.** Fumigate old stored grain. Before storing new grain, get rid of insects by cleaning the bins and areas surrounding them. Spray bins with insecticide.



**Use screens to keep out birds and poultry.** Use  $\frac{1}{2}$ -inch mesh hardware cloth or similar material over all windows and other openings.

**GRAIN IS FOOD . . . KEEP IT CLEAN**